

Title: JP59087992A2: OPTICAL HEAD FOR LASER MACHINING
Derwent Title: Optical head for cutting or shaping work - has lens for returning laser beam to collimated beam.
 NoAbstract Dwg 2/2 [\[Derwent Record\]](#)
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Kind: A
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Abstract:

PURPOSE: To prevent the incidence of the irregularly reflected light from a material to be worked to a laser oscillator by providing a mechanism for condensing once the laser beam drawn out from the oscillator and passing the same through small hole then running in parallel again the same between a taking-out port and a condenser lens.

CONSTITUTION: The laser beam 7 from a taking-out port 5 of a laser oscillator 1 is condensed by the 1st lens 13 and is passed through a pinhole 14a of a shielding plate 14 provided in the position at the focal length thereof, then the light is returned to the laser beam 7 running in parallel in the same direction by the 2nd lens 15. The beam 7 is radiated, via a reflecting mirror 8 and a condenser lens 9, to a material 11 to be worked. A part of the beam 7 reflects irregularly on melting of the material 11 and goes backward into an optical head H2 via a nozzle 10, but can hardly pass the pinhole 14a of the plate 14 so that the retrogression into the oscillator 1 is prevented.

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